

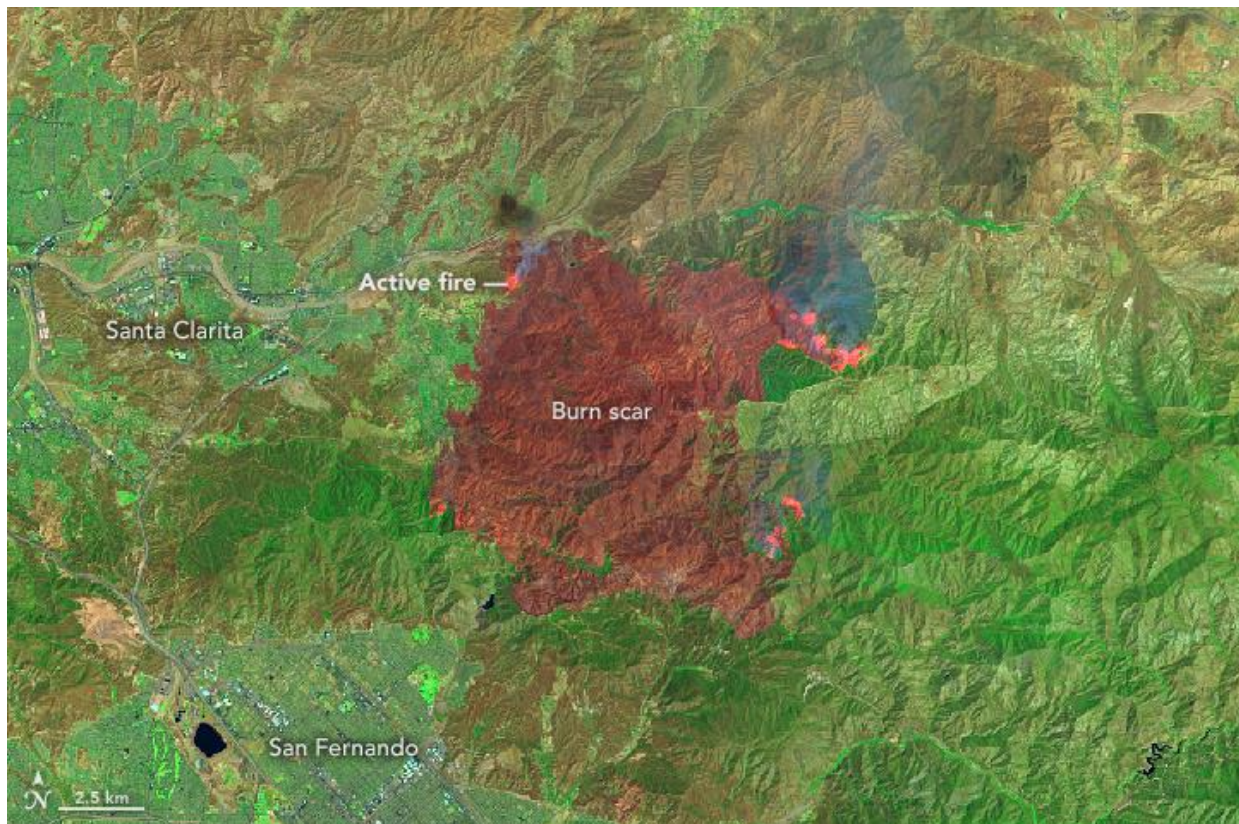
Fired Up Over Math: Studying Wildfires from Space

1. Examine the true and false color images for the Sand Fire and the King Fire. What are the advantages of viewing a fire in true color? What are the advantages of viewing a fire in false color?
 2. Use the scale of the false color image of the King Fire to estimate how long, at its longest, the burn scar is.
 3. Use the King Fire progression map to estimate how long, at its longest, the burn scar is. Which is easier to use, the false color image or the progression map? Why? How do you suppose progression maps are created?
 4. Use math tiles or a grid to find the area of the Sand Fire.
 5. Use math tiles, polygons, or formulas to find the approximate area of the King Fire burn scar. Use whichever map you find easiest.
-
6. Examine the progression map for the King Fire. Assuming a constant progression rate throughout the day, how fast was the fire moving on September 15?
 7. Firefighters were on the ground fighting the King Fire as it advanced toward them. The terrain is steep and unforgiving. Firefighters are wearing and carrying a lot of heavy gear. A firefighter in full gear can climb a slope at a rate of 3.2 kph. If a firefighter were working the King Fire on the front lines on September 13 as the fire advanced, would they have time to outrun it or would they have to shelter in place?

8. Open Google Earth and embed the King Fire severity data set kmz file. Green areas are unchanged by the fire. Yellow = low severity; orange = moderate severity; red = high severity. Note: The King Fire was an unusually severe fire.
9. Find this location on the map: 38.878872, -120.572015.
Is this in an unchanged, low, moderate, or high severity location? Check out these images taken at this location on the ground.
10. Find this location on the map: 38.832171, -120.492246.
Is this in an unchanged, low, moderate, or high severity location? Check out these images taken at this location on the ground.
11. Find this location on the map: 38.808761, -120.475796.
Is this in an unchanged, low, moderate, or high severity location? Check out these images taken at this location on the ground.
12. Discuss how you made your decisions for your answers to questions 10 and 11.
13. Hypothesize about why aerial or satellite data would give ambiguous information.



Sand fire – true color image

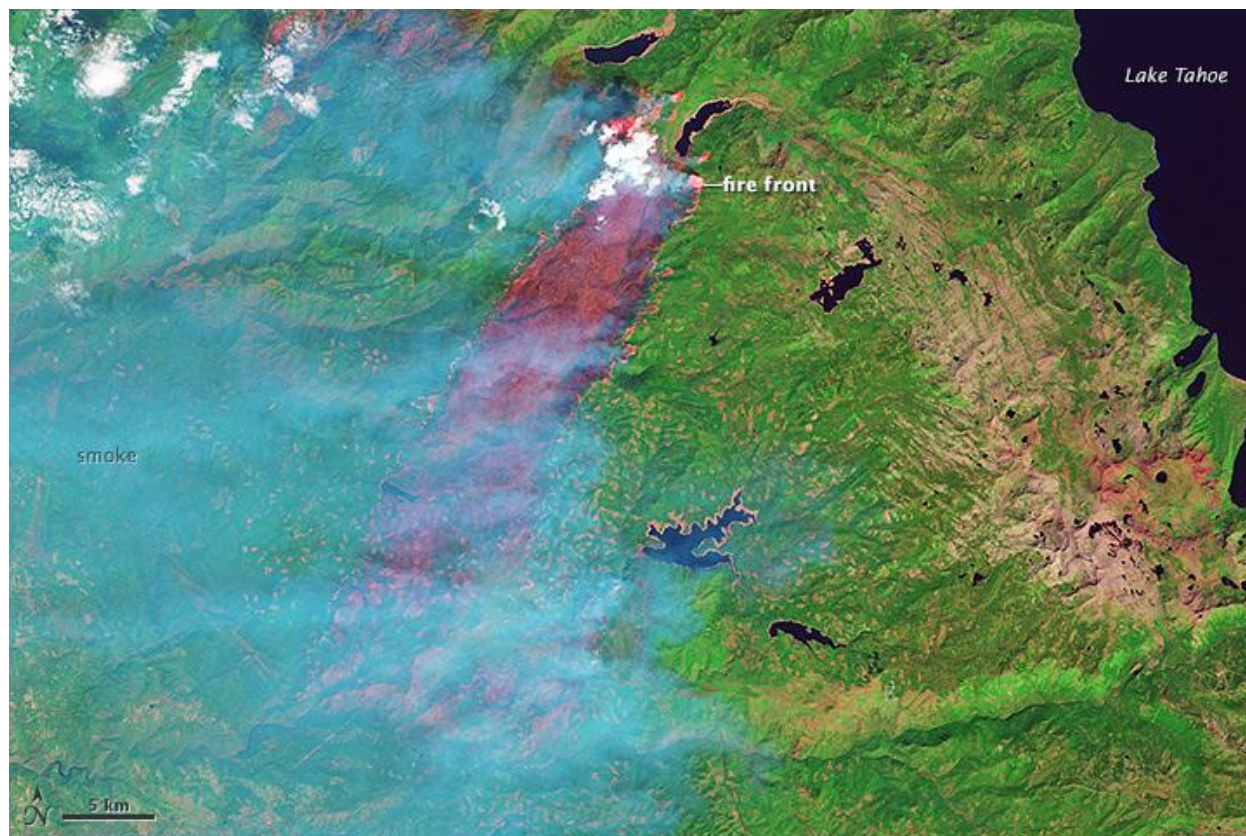


Sand fire – false color image

Fired Up Over Math: Studying Wildfires from Space



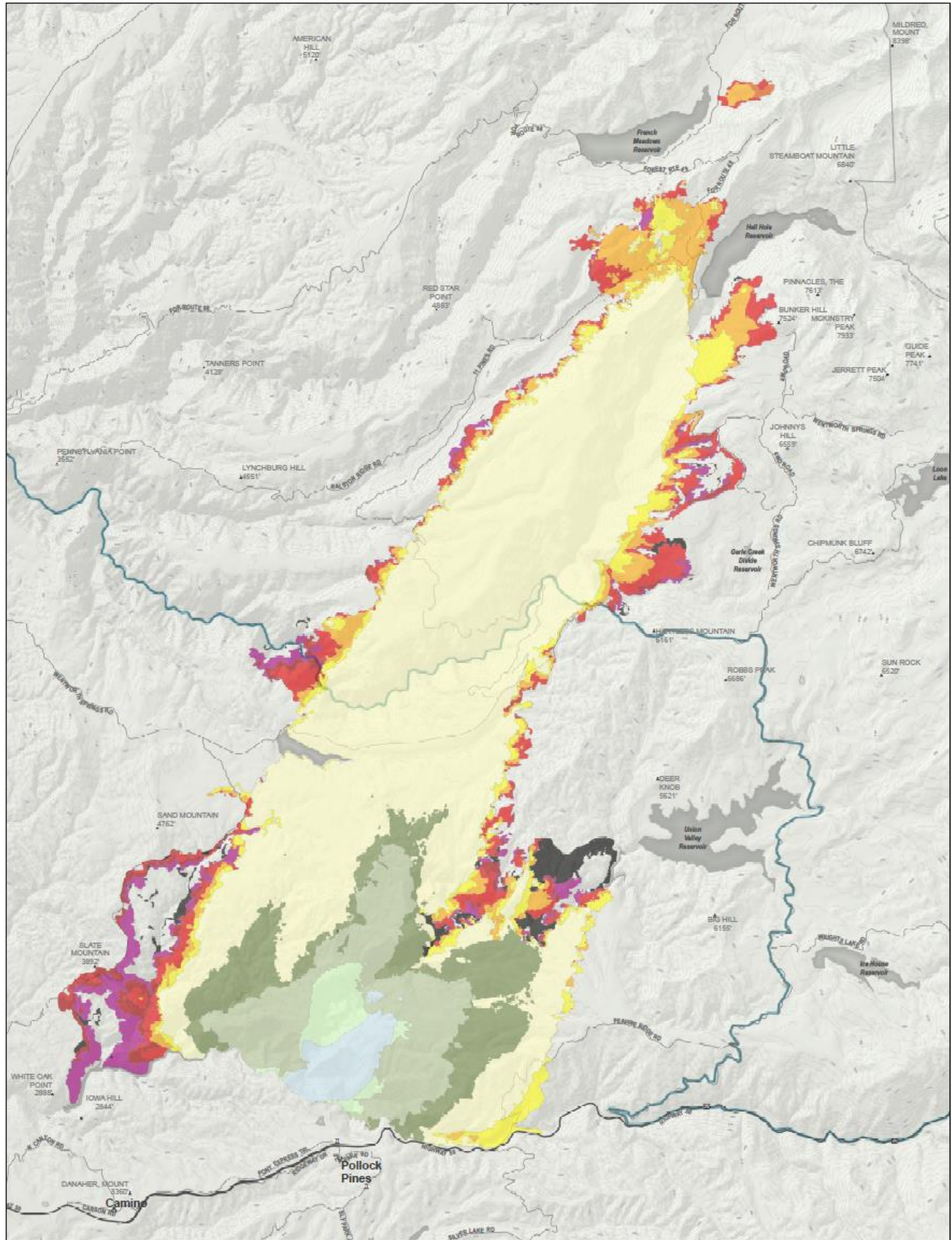
King fire – true color image



King fire – false color image



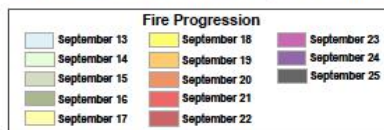
Fired Up Over Math: Studying Wildfires from Space



King Fire

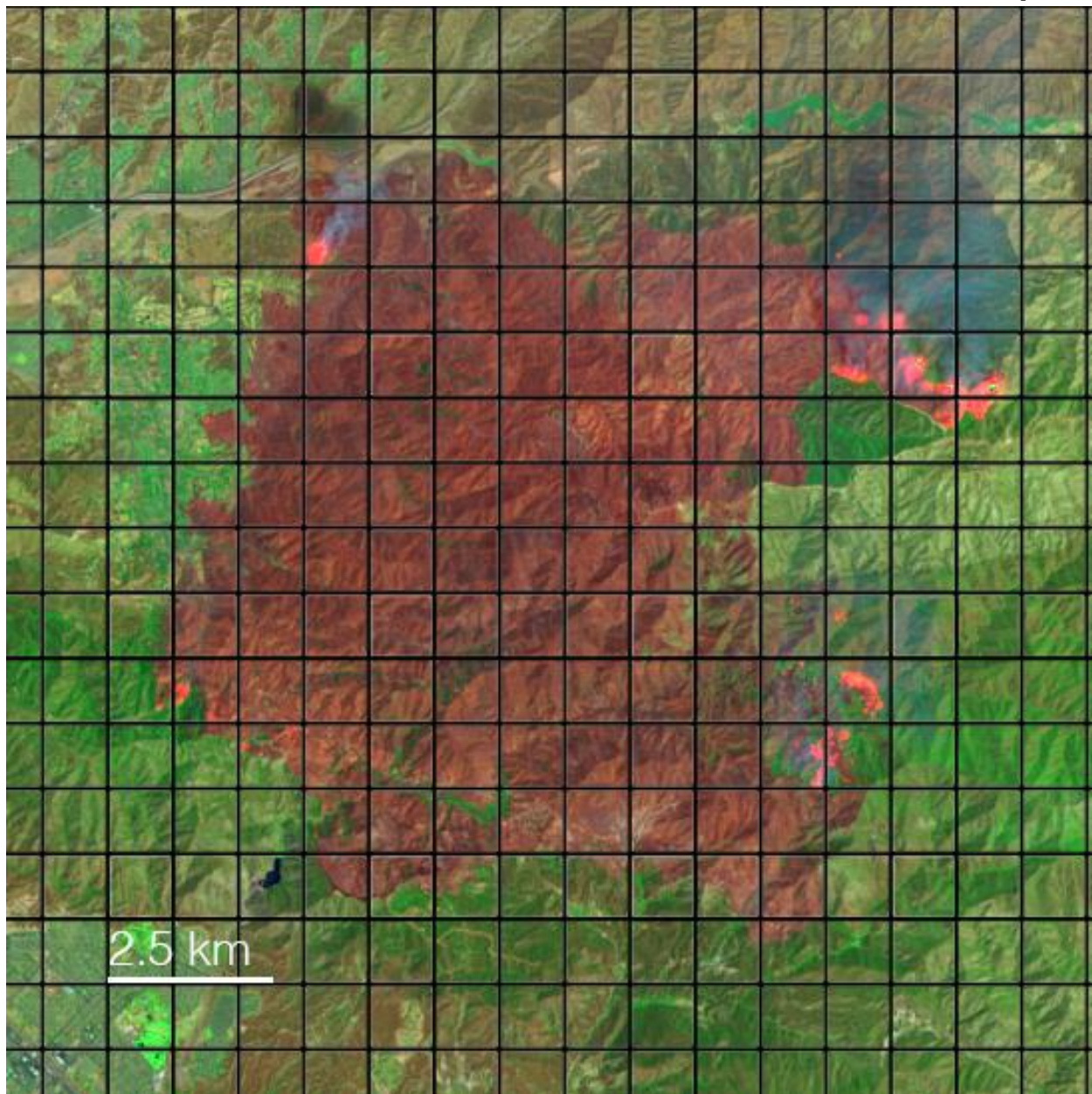
CA-ENF-023461

Friday, September 26, 2014





Fired Up Over Math: Studying Wildfires from Space



Sand fire – false color grid map



Fired Up Over Math: Studying Wildfires from Space



38.878872, -120.572015



38.832171, -120.492246

Fired Up Over Math: Studying Wildfires from Space



38.808761, -120.475796